

REMARKS/ARGUMENTS

The Applicant responds under 37 C.F.R. §1.116 to the final Office Action dated October 30, 2008.

Claims 1-24 are pending in the application. Claim 12 is amended herein. The amendment is supported by the application as filed. No issue of new matter is raised by the amendment.

The Advisory Action

The Advisory Action alleges that Japanese Reference No. 2000-272049 reads on present claim 1. Applicants believe that the Examiner instead meant to refer to Japanese Reference No. 2000-272040, which is the reference cited in the final Office Action dated October 30, 2008 and that the citation to 2000-272049 is simply a typographical error. The Examiner is respectfully requested to confirm, however, whether applicant's interpretation is correct.

Rejection of Claims 1 through 5, 12 and 17-24 Under 35 U.S.C. §102(b)

The Examiner continues to maintain the rejection of claims 1 through 5, 12 and 17 through 24 under 35 U.S.C. §102(b) as being anticipated by JP 2000-272040 (hereinafter the “‘040 Reference”). The applicant respectfully traverses the rejection and requests reconsideration.

The composite material according to claim 1 of the present invention has a feature in which the fiber fabric includes : main constitutional fibers; and *auxiliary fibers having characteristics that compensate for changed characteristics of the main constitutional fibers when the main constitutional fibers are exposed to a high temperature atmosphere*, wherein the main constitutional fibers and the auxiliary fibers are stranded together. This description, however, does not mean that *the main constitutional fibers and the auxiliary fibers are stranded together during the process of being exposed to a high temperature atmosphere*, notwithstanding the Examiner's belief to the contrary as indicated in the Advisory Action.

With regard to the above-described feature of applicant's invention, since the residual stress due to a difference in thermal elongation between the fiber bundles and the matrix phase when the composite material is exposed to a high temperature atmosphere can be small, fiber breakage and

microscopic damage such as cracks in the matrix phase due to the residual stress caused due to a difference in thermal elongation between the fiber bundles and the matrix phase can be prevented.

However, the above-mentioned feature of the present invention is not disclosed or suggested in the '040 Reference. In particular, the '040 Reference discloses a fiber textile formed of a fiber or a fiber bundle of any one of ceramic fiber, carbon fiber and glass fiber. However, this description in the '040 Reference does not teach or suggest a fiber textile formed of a fiber or a fiber bundle *which is stranded together by two types of fibers selected from one of ceramic fiber, carbon fiber and glass fiber* due to the fact that the '040 Reference neither discloses nor suggests a fiber bundle that is stranded together by two types of fibers. That is, in the '040 Reference the fiber textile is formed of fibers or fiber bundles using only one type of fiber.

Further to the above, the '040 Reference discloses ceramic whiskers generated during the process of being exposed to a high temperature atmosphere. However, the ceramic whiskers do not correspond to the main constitutional fibers and/or the auxiliary fibers of the present invention. Thus, the ceramic whiskers and one of the above-mentioned fiber types cannot be considered as being stranded together.

Still further, the residual stress due to a difference in thermal elongation between the fiber bundles and the matrix phase when the composite material is exposed to a high temperature atmosphere is another factor that is not disclosed by the '040 Reference.

Therefore, in the '040 Reference, since the residual stress caused due to a difference in thermal elongation between the fiber bundles and the matrix phase when the composite material is exposed to a high temperature atmosphere can not be reduced, fiber breakage and damage such as microscopic cracks in the matrix phase due to residual stress caused by the difference in thermal elongation between the fiber bundles and the matrix phase can not be prevented.

In summary, therefore, claim 1 recites at least one feature that is nowhere disclosed or even suggested in the '040 Reference and, for this reason, the rejection of claim 1 and the claims depending therefrom under 35 U.S.C. §102(b) over the '040 Reference should be withdrawn.

Further to the above, the same argument as made above regarding claim 1 may be applied to the rejection of process claim 12. That is, in the process recited in the subject claim, *the main constitutional fibers and the auxiliary fibers* are not stranded together during the process of being

exposed to high temperature atmosphere in the production method for forming the composite material. This, therefore, contrasts with the teachings contained in the '040 Reference and, thus, the anticipation rejection of claim 12 and those claims depending from claim 12 should be withdrawn.

Claim Rejections Under 35 U.S.C. §103

In the final Office Action (¶10) claims 1-8, 10-13 and 16-24 are rejected under 35 U.S.C. §103(a) over the combination of JP 10-194856 with JP 2000-272040. Applicant respectfully traverses this rejection and requests reconsideration.

In the discussion above regarding the rejection under 35 U.S.C. §102(b), Applicant pointed out how the JP 2000-272040 (the “ ‘040 Reference”) does not teach, or even suggest the at least one important feature of the composite material and/or the method of making the composite material as set forth in, respectively, claims 1 and 12. The applicant incorporates by reference the arguments presented above in its response to this ground of rejection.

Further to the above, applicant respectfully submits that the JP 10-194856 reference combined with the '040 Reference to reject applicant's claims 1-8, 10-13 and 16-24 does not supply the element(s) of the invention not taught or even suggested, as explained above, in the '040 Reference. That is, the Japanese 10-194856 reference, in all of the figures and especially in Figure 4, shows full separation between low elasticity fibers 4 and high elasticity fibers 3. This separation is with both of fibers being separately adhered to the matrix with a spacing there between in an alternating matrix configuration. The Japanese '856 reference discloses the fiber fabric being formed in a reticular pattern with two types of fiber bundles , but **not with the fiber bundles being stranded together**, as required by applicant's independent claims '1 and 12.

As can be seen from the above, therefore, the JP 10-194856 reference does not disclose all of the features of the presently claimed invention, as recited, e.g., in claims 1 and 12. Moreover, it also contains no suggestion to provide the fibers in a stranded configuration. One skilled in the art would not have been led to modify the fiber fabric of JP 10-194856 to that of the presently claimed invention, particularly since the reference itself discloses that the structure which it describes with separated low and high elasticity fibers has increased crack resistance.

As indicated above, therefore, neither the '040 Reference nor JP 10-194856 reference describes all of the features of the presently claimed (see, e.g., claims 1 and 12) article and method. Moreover, as indicated above JP 10-194856 would not suggest the modification necessary to achieve applicant's claimed article and method, whether viewed by itself, or in combination with the '040 Reference. Still further, JP 10-194856 fails to supply the element(s) of the claimed invention missing from the '040 Reference (see the discussion above).

For all of the reasons provided herein, therefore, the Examiner is respectfully requested to reconsider and withdraw the §103 rejection of applicant's claims 1 through 8, 10 through 13 and 16 through 24.

Furthermore, in ¶11 of the Office Action claim 9 is rejected under 35 U.S.C. 103(a) over JP 10-194856 in view of JP 2000-272040 and further in view of U.S. Patent No. 6,838,162 of Grueber et al. The applicant respectfully traverses this rejection and requests reconsideration.

The two Japanese references, i.e., JP 10-194856 and JP 2000-272040 included in the combination of references cited to reject applicant's claim 9 are extensively discussed above. The applicant incorporates by reference the arguments presented above concerning those references in response to this rejection.

Claim 9 depends from claim 1 and thus it includes all of the features set forth in the 'parent' independent claim. It is already established above by applicant that neither JP 10-194856 or JP 2000-272040, whether taken individually or in combination, serve to teach or even suggest the composite material recited in claim 1. Nor does the addition of USP 6,838,162 serve to supply the elements of the claimed material missing from the combination of the afore-mentioned Japanese references. In sum, therefore, the desirable features recited in claim 9 are not made obvious by the cited art because the two primary references (i.e., the Japanese documents) do not teach one of ordinary skill the elements recited in claim 1 upon which, as noted above, claim 1 depends.

The Examiner is, therefore, respectfully requested to reconsider and withdraw the rejection of applicant's claim 9 under 35 U.S.C. §103(a).

Furthermore, in Office Action ¶12 claims 14 and 15 are rejected under 35 U.S.C. §103(a) over JP 10-194856 in view of JP 2000-272040 and further in view of U.S. Patent No. 6,732,382 to Yamaguchi. The applicant respectfully traverses this rejection and requests reconsideration. The

arguments presented above regarding the two 'primary' Japanese references are incorporated by reference into this discussion.

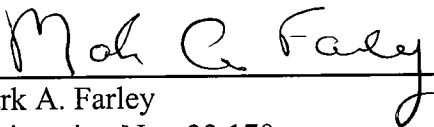
Claims 14 and 15 both depend upon claim 12. Thus they include all of the features contained in 'parent' claim 12, as well as additional desirable features of the method. These desirable features of claims 14 and 15 are not, however, rendered obvious by the cited art due to the fact that the two Japanese references do not teach one of ordinary skill the features recited in claim 12 as explained above. Nor does the '382 Yamaguchi reference supply the elements of the subject claim 12 missing from either and/or both of the Japanese references. The Applicant thus believes that claims 14 and 15 are independently patentable and requests that the rejection be withdrawn.

Conclusion

Favorable consideration and allowance of the application are requested.

Respectfully submitted,

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